NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T
(pursuant to NAC 445A.874)

Permittee Name: **Chevron Products Company**
Permit Project: **Former Chevron Station 9-8316**
Permit Number: **UNEV99207**

A. Description of Injection

Location: The single network of six (6) injection wells are located at 801 Avenue F, Ely, Nevada 89301 in the SE¼ of Section 15 within T16N, R63E, MDB&M, in White Pine County.

Characteristics: The injectate consists of 25 gallons of 20% solution of ferrous sulfate and a later dose of 5 % hydrogen peroxide solution. The ferrous sulfate solution will include a small concentration of acetic acid which will be utilized as a chelating agent. A small volume of sulfuric acid will also be added to the ferrous sulfate solution to maintain the pH at 2. This solution will be added to each of the six injection wells. 550 gallons of a 5 % hydrogen peroxide solution will subsequently be introduced into each injection well.

B. Synopsis

The former Chevron Station #9-8316 functioned as a gasoline station. It is currently a vacant lot. Three Underground Storage Tanks (USTs) were broken during removal activities in 1990. The released contamination consists of petroleum hydrocarbons. Subsequent sampling provided groundwater quality results demonstrating contaminant levels above the state action levels for both petroleum hydrocarbons as well as chlorinated solvents (See Section C for Receiving Water Characteristics).

The Fenton Reagent products will be introduced into the subsurface through six injection wells and will be deployed in two separate doses, as specified above. The ferrous sulfate will enhance the production of the hydroxyl radical, which will act as a reactive scavenger and chemically degrade the petroleum hydrocarbons and chlorinated solvents into end-products consisting of carbon dioxide, water and chloride salts.

C. Receiving Water Characteristics:

Groundwater sampling at this site has demonstrated the presence of dissolved petroleum hydrocarbons and chlorinated solvents in excess of the State and Federal action levels. The source of the chlorinated solvents is not from this facility.

The geology encountered during well construction at the site consists of layers of sandy gravels and silty sands with occasional discontinuous layers of sandy silts to 90 feet below ground surface. Groundwater is present at approximately 70 feet below ground surface and the average local gradient is estimated to be approximately 0.003 ft/ft in the north-northeasterly direction.

The groundwater quality at this site has demonstrated the following concentrations as reported by Secor Consultants:

Constituent	Existing Groundwater Concentration
Benzene	12,000 ppb
Toluene	7,000 ppb
Ethylbenzene	2,200 ppb
Xylenes (total)	17,000 ppb
MTBE	80 ppb
TPH (gasoline)	93,000 ppm
TPH (extractables)	33,000 ppm
1,2-Dibromobenzene	191 ppb
1,2-Dichloroethane	444 ppb
Iron	6.5 ppm
TDS	780 ppm

D. Procedures for Public Comment

Notice of the Division's intent to issue a permit authorizing the facility to inject into the groundwater of the State of Nevada will be sent to the Ely Daily Times for publication.

The notice will be mailed to interested persons on our mailing list (Please refer to Attachment B). Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the publication date of said public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected state, any affected interstate agency, the regional administrator of EPA Region IX or any interested agency, person or group of persons.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

E. Proposed Determination

The Division has made the tentative determination to issue the proposed permit for a five year period.

F. Proposed Limitations and Special Conditions

PARAMETER	FREQUENCY	LOCATION	LIMITATIONS
Full-Scan Volatiles, including MTBE and chlorinated solvents, utilizing EPA method 8260	Pre-Injectate: Within one week of Injection Activities	VEW-1, VEW-2, VEW-3, VEW-4, VEW-6, VEW-7 and MW-13	Monitor and Report
Full-Scan Volatiles, including MTBE and chlorinated solvents, utilizing EPA method 8260	Post Injectate: Within 24 hours One Month Quarterly thereafter	VEW-1, VEW-2, VEW-3, VEW-4, VEW-6, VEW-7 and MW-13	Monitor and Report
TPH (extractable)	Quarterly	VEW-1, VEW-2, VEW-3, VEW-4, VEW-6, VEW-7 and MW-13	Monitor and Report
TDS	Quarterly	VEW-1, VEW-2, VEW-3, VEW-4, VEW-6, VEW-7 and MW-13	Monitor and Report

Dissolved Oxygen and pH	Quarterly	VEW-1, VEW-2, VEW-3, VEW-4, VEW-6, VEW-7 and MW-13	Monitor and Report

PARAMETER	FREQUENCY	LOCATION	LIMITATIONS
Iron II	Quarterly	VEW-1, VEW-2, VEW-3, VEW-4, VEW-6, VEW-7 and MW-13	Monitor and Report
ortho-Phosphate	Quarterly	VEW-1, VEW-2, VEW-3, VEW-4, VEW-6, VEW-7 and MW-13	Monitor and Report
All Chemicals utilized in procedure: - Chemical Name - Mass/Volume - Final Concentration - Total Volume per Injection Well	During Injection Event	All affected Injection Wells	As Specified in Permit Application
Groundwater Elevation and Depth to Groundwater	Quarterly	All Site-Related Monitoring Wells and Injection Wells	Monitor and Report

G. Rationale for Permit Requirements

The permit conditions will help to ensure that the injectate does not adversely affect the existing water quality or hydrologic regime.

Prepared by: Valerie G. King
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